# ABSTRACT OF THE DISCLOSURE

A new method is presented for generating a probability map, a cutoff map, and a

5    confidence limit map in one single operation.   In addition, the new method can also

generate a cube representing a cubic volume of earth formation by using the same

method for generating the aforementioned maps. This is accomplished by:

(a) gridding a cross section, (b) Kriging the gridded cross section thereby producing a

plurality of expected values and a corresponding plurality of standard deviations

10    associated, respectively, with the plurality of intersections on the gridded cross

section, (c) generating a plurality of probability density functions which correspond,

respectively, to the plurality of expected values/standard deviations of the plurality of

intersections, (d) integrating each of the probability density functions thereby

generating a plurality of cumulative distribution functions which correspond,

15    respectively, to the plurality of probability density functions, (e) choosing a value

from each of the cumulative distribution functions associated with each of the

intersections of the gridded cross section, and (f) assigning such value to its

associated intersection of the gridded cross section and assigning a unique color to

each such value, thereby generating a map illustrating the characteristics of the cross

20    section through the earth formation.  Since a cube includes a plurality of gridded cross

sections, by generating a map for each cross section, the new method will generate the

cube.